

Release after Redaction
(P11).

Region 8



13539

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

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FILED
EPA REGION VIII
HEARING CLERK

IN THE MATTER OF

Docket No. SDWA-8-99-68

Murphy Exploration &
Production Company,
Murphy Oil USA, Inc.,
Murphy Oil Corporation,
Pioneer Natural Resources
Company,
W.R. Grace & Company-Conn.,
AMARCO Resources Corporation,
EPEC-Altamount Corporation,
Marathon Oil Company

EMERGENCY
ADMINISTRATIVE ORDER

Respondents

East Poplar Oil Field
Fort Peck Indian Reservation
Montana

Proceedings under
Section 1431(a)
of the Safe Drinking Water
Act, 42 U.S.C. §300g-i(a)

STATUTORY AUTHORITY

1. The following Findings are made and Order issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 1431(a) of the Safe Drinking Water Act. (the Act), 42 U.S.C. §300i(a). The authority to take this action has been properly delegated to the undersigned EPA program supervisors.

ENFORCEMENT RESPONSIBILITY

2. EPA has primary enforcement responsibility for the Act on the Lands within the exterior boundary of the Fort Peck Indian Reservation in Roosevelt County in the State of Montana.

DESCRIPTION OF RESPONDENTS

3. Murphy Exploration & Production Company is a Delaware corporation doing business in the State of Montana and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12).
4. Murphy Oil USA, Inc. is a Delaware corporation and did business in the state of Montana until status was withdrawn in 1994, and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12).
5. Murphy Oil Corporation is a Delaware corporation and did business in the state of Montana and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12).
Murphy Oil Corporation was a publicly held corporation until 1991, at which time the parent company Murphy Oil Corporation acquired all of the company's stock. The acquisition was completed by forming a new subsidiary of the parent Murphy Oil Corporation known as Murphy

Exploration & Production Company, which currently operates in the state of Montana.

6. Pioneer Natural Resources Company is a Delaware corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Also known as Pioneer Natural Resources USA, Inc. Pioneer Natural Resources Company acquired the assets of Mesa Petroleum Co. Mesa Petroleum Co. did business in the state of Montana.
7. W.R. Grace & Co. is a Connecticut corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Polumbus Petroleum Corporation in its merger with W.R. Grace & Co. became Grace Petroleum Corporation. Polumbus Petroleum Corporation merged with W.R. Grace & Co. a Connecticut corporation in 1976. Polumbus did business in the state of Montana.
8. AMARCO Resources Corporation is a Texas corporation and did business in the state of Montana and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). AMARCO Resources Corp. is also using the trade name Westdale, Inc. in Texas.
9. EPEC-Altamont Corporation is a Delaware corporation and did business in the state of Montana and therefore is a

"person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Tenneco Oil Company (Tenneco-Altamont Corporation) merged with EPEC-Altamont Corporation and did business in the State of Montana.

10. Marathon Oil Company is an Ohio corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). TXO Production Corp. a Delaware corporation merged with Marathon Oil Company. TXO Production Corp was a trade name for Texas Oil & Gas Corp. a Delaware corporation.
11. Respondents own and/or operate or did own and/or operate oil and gas production facilities, including but not limited to oil or gas production wells, produced brine disposal wells, secondary recovery injection wells, drilled and abandoned dry holes, production and waste pits, storage tanks, oil/water separators, and distribution pipelines and pumping facilities, in portions of the East Poplar Oil Field located within Township 28 North, Range 51 East on the Fort Peck Indian Reservation in Roosevelt County in the State of Montana.

FINDINGS

12. The Quaternary Deposits are the most recent geologic deposits of the Cenozoic Era, covering approximately the past 1.65 millions years. These Quaternary Deposits in the East Poplar Oil Field area consist mainly of the Winota Gravel, Sprole Silt, glacial till, fan alluvium and colluvium, and alluvium. The Pleistocene Winota Gravel, Sprole Silt, glacial till, and dune sand are referred to as "glacial deposits". Lithologic logs from the monitoring wells drilled in the area show depths ranging from of 55 to 100 feet. The Pleistocene and Holocene fan alluvium and colluvium and Holocene alluvium are referred to as "alluvium" and overlie the glacial deposits in many areas with depths ranging from 20 to 56 feet. The alluvium underlies flood plain deposits. Water in Quaternary deposits east of the Poplar River generally moves westward toward the river where it merges with southward-flowing ground water in the Poplar River valley. Downward movement of water from the Quaternary deposits is not a significant problem, the underlying Bearpaw Shale is relatively impermeable and forms a confining layer.
13. These Quaternary glacial deposits and alluvium are the sole developed source of ground water for private resident wells in and around the East Poplar Oil Field

and the Poplar, Montana and tribally-owned Poplar Head Start Center public water supply systems. Depth to the water table below land surface in this area generally ranges from about 5 to 44 feet in the alluvium and 7 to 139 feet in the glacial deposits.

14. The Quaternary Deposits form an unconfined aquifer which contains a sufficient quantity of ground water to supply a public water system. A public water system (PWS), as defined by 40 C.F.R. § 141.2, means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.
15. The Quaternary Deposits are an underground source of drinking water (USDW). A USDW, as defined under 40 C.F.R. § 144.3, means an aquifer or its portion which supplies any PWS or which contains a sufficient quantity of ground water to supply a public water system; and currently supplies drinking water for human consumption or contains fewer than 10,000 mg/L total dissolved solids. Past sampling from private ground water wells in the area showed total dissolved solids content ranging from 427-2,680 mg/L (as discussed in the U.S. Geological Survey study below).

16. The United States Geological Survey (USGS) has conducted an extensive ground water investigation of saline-water contamination in and around the East Poplar Oil Field. The USGS reviewed ground water and surface water quality data from existing private water wells, new monitoring wells, oil wells, brine-injection wells, and the Poplar River in the East Poplar Oil Field area. Additionally, the USGS completed an electromagnetic geophysical survey, by measuring the electromagnetic apparent conductivity corrected for local anomalies (wells, pipelines, etc.), over a 21.6 square mile area to assist in the delineating the extent of the saline-water contamination plumes. Uncontaminated ground-water in the area had total dissolved solids content ranging from 427-2,680 mg/L. The areas delineated by the ground water study as part of the brine contaminated plumes contained total dissolved solid levels as high as 91,100 mg/L. In July 1999, EPA took ground water samples from the wells at private homes within the area shown by the USGS study to have brine contamination. EPA found TDS levels at these homes to range from 1850 to 4890 mg/L.
17. EPA collected water samples at several of the home sites in the contamination area to determine if any contamination by hydrocarbons or volatile organic compounds (VOCs) was also a concern. Brine

contamination plumes associated with oil and gas production operations will have remnants of hydrocarbons from the production formation. Samples taken by both EPA at the existing home sites and USGS at several monitoring wells showed benzene contamination. A sample taken at one home site had benzene contamination between 58-78 ug/L or 0.058-0.078 mg/L, while other samples taken at USGS monitoring wells in the field were between 1.58-4.86 ug/L or 0.00158-0.00486 mg/L.

18. Under the Primary Drinking Water Standards, the maximum contaminant level (MCL) for benzene, as set forth in 40 C.F.R. § 141.61, is 0.005 mg/L. Secondary Drinking Water Standards, as set out in 40 C.F.R. § 143.3, for dissolved-solids is 500 mg/L.
19. The presence and entry of benzene at levels as high as .078 mg/L in the Quaternary Deposits USDW may present an imminent and substantial endangerment to the health of persons.
20. Benzene is a known human carcinogen. A causal relationship between benzene exposure and leukemia has been clearly established. Benzene exposure has also been associated with cancer of the lymph system (lymphoma), lung cancer, and bladder (urothelial) cancer. Benzene may increase the risk of cancer in

humans who are exposed at lower levels over a long period of time.

21. The presence and entry of dissolved-solids at levels between 10,000 and 91,100 mg/L where found in the Quaternary Deposits USDW may present an imminent and substantial endangerment to the health of persons.
22. Total dissolved solids in excess of 1,000-2,000 mg/L is unpalatable and will not be voluntarily consumed by individuals. If an individual has no other source of water and is forced to consume water with TDS levels over 10,000 mg/L, the adverse health effects include severe osmotic diarrhea and severe dehydration. Continued consumption after the onset of the above conditions may result in death.
23. Contaminants, including dissolved-solids and benzene are present in, entering, and are likely to continue to enter the Quaternary Deposits.
24. Based upon the data obtained regarding the geology in the affected area, the general direction of groundwater migration in the USDW and water quality assessments from monitoring and private wells, and review of historical land use in the area, EPA has determined that Respondents' oil production practices and/or equipment have caused or contributed and/or are continuing to cause or contribute to the endangerment of a USDW.

25. EPA has consulted with the Assiniboine and Sioux Tribes of the Fort Peck Reservation prior to issuing this Order. The Tribes notified EPA that they have not taken an action to protect the health of persons from the contaminants that are likely to be present in the Quaternary Deposits USDW.
26. To date, no governmental action has been taken to protect the health of persons from the contaminants that are likely to be present in the Quaternary Deposits USDW due to Respondents' operations of their oil production operations. The State of Montana, which does not have jurisdiction in this case, has been contacted by EPA. The State notified EPA that it has not taken an action and does not intend to take an action in this case.
3. EPA, therefore, finds that the actions ordered below are authorized under Section 1431 of the Act, 42 U.S.C. §300(i), and are necessary in order to protect the health of persons.

EMERGENCY ADMINISTRATIVE ORDER

1. Based on the foregoing findings of fact, taking into account the imminent and substantial endangerment to the health of persons and other such matters as justice may require, including the administrative record, and under authority of §1431(i) of the Act, 42 U.S.C.

§300(i), compliance with the following provisions is hereby ordered:

A. PROVIDE TEMPORARY SAFE DRINKING WATER SOURCE TO IDENTIFIED RESIDENCES

The Respondents shall immediately provide an alternative source of water that meets the EPA drinking water standards (40 C.F.R. Part 142) for drinking and cooking to the residences of the contaminated area. The water shall be provided in the quantity of one gallon per person per day in each residence. This water is to be provided on a regular basis in an easily accessible manner to the residence. The residences known to have contaminated water or which have drinking water which is threatened with contamination at this time are listed below and on the attached map

(Attachment #1) :

Current Resident	City	State	Residence Address	Sec	Tw	Rge
Kohl, Danny	Poplar	MT				
Lien, Birdell	Poplar	MT				
Zimmerman, Bill	Poplar	MT				
Abbott, Joe	Poplar	MT				
Kirn, Audrey	Poplar	MT				
Kirn, Michael	Poplar	MT				
Gray Hawk, Rachel	Poplar	MT				

East Poplar Oil Field
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Trottier, Tim & Donna	Poplar	MT	
Lockman, William	Poplar	MT	
Four Bears, Charles	Poplar	MT	
Martell, Rene & Josi	Poplar	MT	
Ricker Sr., George & Helen	Poplar	MT	
Bleazard, Ross & Laura	Poplar	MT	
Whitmer, Warren & Donna	Poplar	Mt	
Loegering, Mavis	Poplar	MT	
Kirn Sr., Jesse	Poplar	MT	
Grandchamp, Denise	Poplar	MT	
Grainger, Trivian	Poplar	MT	

After further study there may be a need to supply other types of domestic water. Respondents, upon notification by EPA, shall deliver this alternative source of water until such time as the local water source has been deemed by EPA as safe for consumptive

use or a permanent alternative source of water is provided. As the contamination plume moves through the aquifer, other residence(s) or municipalities may be added to the list above, and this Order will be amended.

B. SUBMIT CLEANUP AND PERMANENT ALTERNATIVE WATER SUPPLY PROPOSALS

Respondents shall submit to EPA within 120 days of the receipt of this order a proposal for cleaning up the contamination plume(s) and a proposed plan for a permanent alternative water supply. The proposed plan for clean up of the contamination plume(s) shall include, but not be limited to, the information listed below:

1. Proposed method(s) to capture existing plume, to include:
 - a. Containment
 - b. Diversion of ground water
 - c. Monitoring of Plume
2. Proposed method(s) to treat or dispose of captured plume, to include:
 - a. Extraction of contaminants
 - b. Disposal of contaminants
 - c. Clean-up levels
3. Determination of lateral and vertical extent of ground water contamination, to include:
 - a. Salinity determination
 - b. Benzene determination
 - c. Total organic carbon determination
 - c. Cl:Br ratio
 - d. Ground water flow direction
 - e. Ground water flow rate
4. Proposed method(s) to prevent further contamination, to include:
 - a. Containment at surface
 - b. Corrective action on leaking wells
 - c. Corrective action on leaking pits and ponds
 - d. Corrective actions on leaking tanks

- e. Corrective action on leaking transportation lines

The proposed plan for a permanent alternative water source shall be developed and approved by an independent engineer and shall take into consideration at least the factors listed below:

1. Water source
2. Source water yield
3. Source water quality (meets all EPA Drinking Water standards and if it meets criteria as a public water supply, must follow PWS regulatory requirements)
4. Long-term management of alternative water source

C. PREPARE AND SUBMIT WELL INFORMATION

The Respondents shall provide a historical record for each well listed and any other wells drilled, completed, reworked, converted, operated or plugged by Respondents within the sections of Township 28N and Range 51E, Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24. Attached is a non-inclusive list of wells by Section, Township, and Range, and by company, for which the Respondents must provide the well information listed below (Attachment #2). The drilling, construction, well rework, conversion, plugging and other pertinent records submitted should include but not be limited to the information listed below. In each case service company records associated with each well activity shall be included. Respondents shall include information on

each instance of well integrity failures, that involved casing leaks, flow behind the casing and/or any fluids surfacing at or near the wellheads. Respondents shall include information listed below:

1. Well Name and API Identification Number
2. Well location
3. Current well status for each well.
 - a. Active, Shut-in, Temporarily Abandoned, Plugged
4. Well Construction Information
 - a. Date Well Drilled
 - b. Date Well Completed
 - c. Total Depth
 - d. Plug Back Depth
 - e. Drilling Record
 - f. Completion Record (include diagram)
 - g. Cementing Record (including estimated cement tops with assumptions for calculations and cement bond logs)
5. Well Rework Information
 - a. Date of Well Rework
 - b. Reason for Rework (If due to casing leak, location of leak if known)
 - c. Records of Well Logs and Tests Performed
 - d. Record of Rework
 - e. Date Well Recommended Injection or Production
6. Temporarily Abandoned (TA) or Shut-in Wells Information
 - a. Date(s) Well Shut-in or TA
 - b. Reason for TA or Shut-in of Well
 - c. Was Well Shut-in or TA'd With the Equipment in the Well?
 - d. If Not, What Equipment Was Removed and When, Provide a Record of Work if Possible
 - e. Is the Well Capable of Resuming Injection or Production Without a Rework?
7. Well Conversion Information
 - a. Date(s) Well Converted from Production to Injection:
 - b. Date(s) Well Converted from Injection to Production
 - c. Record of Conversion Activity.

8. Plugging and Abandonment Information
 - a. Plug and Abandonment Plan
 - b. Plugging Record
 - c. Were Any Problems Experienced During the Plugging Process, Involving Such Things as Pulling of Equipment, Setting Plugs, Water Flow to Surface?

D. PREPARE AND SUBMIT TANK AND PIPELINE INFORMATION

Respondents shall provide information on all current and past tanks, associated tank battery equipment, oil/water separators, and pipelines used in the East Poplar Oil Field for the production of oil and gas in the township, range, and sections listed Paragraph C above, including but not limited to: Tank Batteries 8-D, 80-D, South Central, A, C, D, F, G, H, K, and R.

Respondents shall provide the information listed below:

1. Location of tank
2. Tank size and construction
3. Duration of tank use
4. Information on leaking tank bottoms or any other type of tank integrity failure(s)
5. Information on spill incidents at or near the tanks and tank batteries, including those from unloading transport trucks into the tanks.
6. Location of all pipelines (identify as surface or subsurface)
7. Information on any leaks or spills from pipelines leading to and from the tanks and wells
8. Information on pipeline failures on the surface and subsurface.

E. PROVIDE INFORMATION ON PIT(S) USED IN THE PRODUCTION OF OIL OR GAS

Respondents shall provide information on all current and abandoned pits used for well construction, oil and gas production, well workovers, product and waste storage, evaporation and disposal of fluid products and

wastes in the sections listed for in the East Poplar Oil Field for the production of oil and gas in the township, range, and sections listed in Paragraph C above.

Respondents shall include information on the construction for each pit, date pit constructed, duration of pit use, for what the pit was used, types of wastes placed in the pit, and, if abandoned, record of abandonment.

F. PROVIDE GEOLOGIC AND HYDROLOGIC FIELD INFORMATION

Respondents shall provide a formation depth cross section for the portion of the field drilled, constructed, operated, and/or plugged well(s) by each Respondent. Respondents shall provide information on all formations found to contain water above the injection or production formation being used by their wells. Respondents shall provide information on formation pressures for production and/or injection formations, over a time line from well construction to well plugging.

2. Unless otherwise specified, all reports and notifications herein required shall be submitted to:

Carol Bowden
U.S. Environmental Protection Agency
Office of Enforcement, Compliance
and Environmental Justice
Technical Enforcement Program (8ENF-T)
999 18th Street, Suite 500
Denver, Colorado 80202-2466
Telephone (303) 312-6485

3. Not more than 48 hours after receipt of this Order, Respondents shall contact Ms. Carol Bowden at the above address and telephone number to advise her of their intentions to comply with this Order. If that 48 hour time period occurs on a weekend or holiday, Respondents shall contact Ms. Bowden by 10:00 a.m. on the first EPA work day (Monday through Friday) after said holiday or weekend.

GENERAL PROVISIONS

1. The provisions of this order shall apply to and be binding upon Respondents, their officers, directors, agents, successors and assigns. Notice of this Order shall be given to any successors in interest prior to transfer of any of the oil and gas facilities or their operation. Action or inaction of any persons, firms, contractors, employees, agents, or corporations acting under, through or for Respondents, shall not excuse any failure of Respondents to fully perform their obligations under this Order.
2. This Order does not constitute a waiver, suspension, or modification of the requirements of any federal

statute, regulation, or condition of any permit issued thereunder, including the requirements of the Safe Drinking Water Act, which remain in full force and effect. Issuance of this Order is not an election by EPA to forgo any civil or any criminal action otherwise authorized under the Act.

3. Violation of any term of this Order may subject Respondents to an administrative civil penalty of up to \$15,000 for each day in which such violation occurs or failure to comply continues pursuant to §1431(b) of the Act, 42 U.S.C. §300i(b). In addition, actions or omissions which violate any requirements of the SDWA or its implementing regulations may subject Respondents to a civil penalty of not more than \$27,500 per day per violation pursuant to §1423 of the Act, 42 U.S.C. §300h-2.
4. This Emergency Administrative Order is a final agency action by EPA.
5. This Emergency Administrative Order is binding on all Respondents, and each Respondent is jointly and severally liable hereunder.

6. The effective date of this Order shall be the date of issuance.

Issued this 30th day of September, 1999.

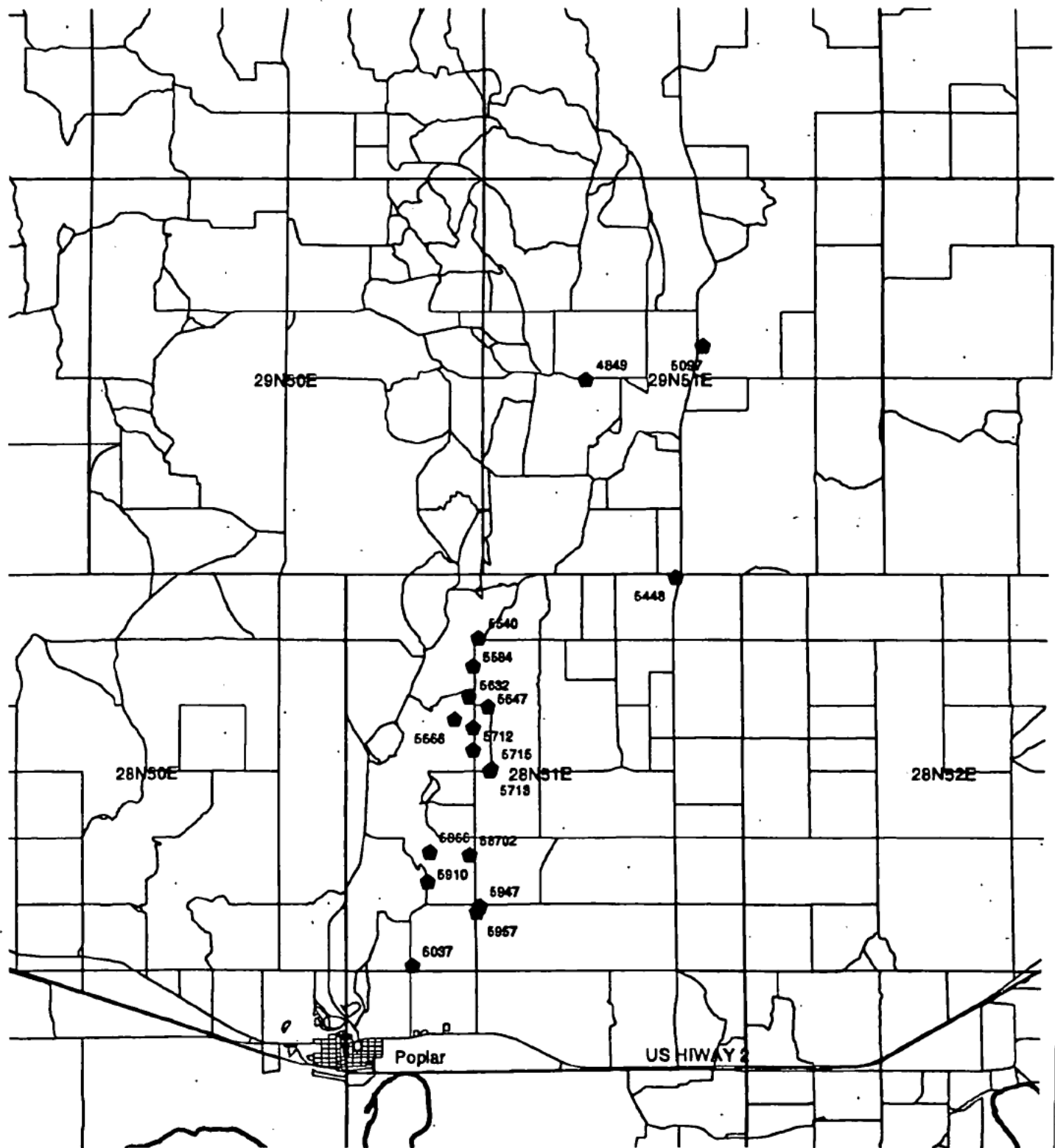
Connally E. Mears

Connally E. Mears, Director
Technical Enforcement Program
Office of Enforcement, Compliance,
and Environmental Justice
United States Environmental Protection
Agency, Region 8

David J. Janik

Michael T. Risner, Director
David J. Janik, Senior Attorney
Legal Enforcement Program
Office of Enforcement, Compliance,
and Environmental Justice
United States Environmental Protection
Agency, Region 8

Ft. Peck Indian Rese



#1

ation

East Poplar Unit, Homeowners

Occupant		
KOHL, DANNY	POPLAR	MT
LIEN, BIRDELL	POPLAR	MT
ZIMMERMAN, BILL	SIDNEY	MT
ABBOTT, JOE	POPLAR	MT
KIRN, AUDREY	POPLAR	MT
KIRN, MICHAEL	POPLAR	MT
GRAY HAWK, RACHEL L.	POPLAR	MT
MARTELL, RENE JOSI	POPLAR	MT
RICKER SR., GEORGE HELEN	POPLAR	MT
BLEAZARD, ROSS LAURA	POPLAR	MT
WHITMER, WARREN DONNA	POPLAR	MT
LOEGERING, MAVIS	POPLAR	MT
GRANDCHAMP, DENISE	POPLAR	MT
GRAINGER, TRIVIAN	POPLAR	MT
KIRN SR., JESSE	POPLAR	MT
POUR BEAR, CHARLES	POPLAR	MT
TROTTIER, TIM, DONNA	POPLAR	MT
LOCKMAN, WILLIAM	POPLAR	MT
	POPLAR	MT

28N53E



● Homesites

□ Roads

□ Township

□ Reservation Boundary 1988

15 Miles



ATTACHMENT 2

WELL LIST BY COMPANY

Murphy Oil Corporation

Murphy Oil USA, Inc.

Murphy Exploration & Production Company

Provide the information required above for those wells listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

LOCATION	WELL NAME
Sec 1 T28N R51E	
C SW NW	Murphy 3
C SW NE	Murphy 99
NE SE	Murphy 76
Sec 2 T28N R51E	
SW NE	Murphy 1
C SE NW	Murphy 18 Also known as: Zimmerman EPU #18 or the 7-B Well
SW NE	Murphy 2-D Also known as: EPU 2-D
SE SE	Zimmerman EPU 116 - New Well
C SW SW	Zimmerman EPU #5 Also known as Murphy #5 or the 7-A Well
C SE SE	Murphy 17
Sec 3 T28N R51E	
SW NW	Murphy 80-D Also known as: Tribal Unit #80-D
	Murphy 82
C SW SE	Murphy 12

C SE SE	Murphy 14
SEC 4 T28N R51E	
SW NW	Murphy 59-D
C SW NE	Murphy 45
Sec 9 T28N R51E	
SE NE	Murphy 67
Sec 10 T28N R51E	
NW NW	Murphy 11
NW NE	Polumbus (Huber) 4
NW NE (50 feet east of Huber #4)	Polumbus (Huber) 4-A
NE	Polumbus (Huber) 1-W
NE NE	Polumbus (Huber) 3
SE NW	Murphy 13
SW NE	Polumbus (Huber) 2
SE SW NE	Murphy 5
SW NW	Polumbus (Huber) 1
C NW SE	Murphy 8-D
E SW NE	(Murphy) Huber 5 SWD Previously known as the Huber 5 (Production)
NE SE	Murphy 6
Sec. 11 T28N R51E	
NWNW	Murphy 15
SW NW	Murphy 7 also known as EPU #7
SW NE	Murphy 68
C SW SW	Murphy 9
SW SE	Murphy 100
Sec. 12 T28N R51E	
SW SW	Murphy 24
SW NE	Murphy 61

Sec. 13 T28N R51E	
SE SW	Murphy 74
Sec. 14 T28N R51E	
C NW	Murphy 101 Also called the Tribal 101
SW SW NE	Murphy 20 Also called the Unit 20
SW SE	Murphy 104 Also called the Tribal 104
SW SW SW	Murphy 22 Also known as the Tribal Unit 22 and EPU 22
Sec. 15 T28N R51E	
C SW NE	Murphy 32 Also known as EPU32
Sec. 22 T28N R51E	
C NW NE	TXO -1 Also known as Buckles "B" #1
NW SE NW	Buckles SWD #1 Also known as TXO-SWD-1
C SE NW	Buckles A-1
SW SE	Tribal Unit #72 Also known as Murphy 72
Sec. 23 T28N R51E	
C SW NE	Murphy 26 (Also known as Fed. Unit #26)
C NW SW	Fed. Unit 55 Also known as Murphy 55

NE NE SW	Fed. Unit 3-G Also known as Murphy 3-G
Sec. 24 T28N R51E	
SW SW	Murphy 44
Sec. 27 T28N R51E	
C SW NE	Federal unit #63 Also known as EPU 63 or Murphy 63

Pioneer Natural Resources Company

for Mesa Petroleum Co.

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

(Respondent must also provide information on the **relief well** drilled near the Mesa Biere 1-22. Respondent must submit information on its location, depth, type of use, duration of use, and the plugging records.)

Sec. 22 T28N R51E	
C NW SW	Biere 1-22 Also know as: Mesa Biere 1-22
SW NW SW	Biere 1-W SWD Also known as: Mesa 1-W(Biere)

AMARCO Resources Company

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

(Respondent must also provide information on the **relief well** drilled near the Mesa Biere 1-22. Respondent must submit information on its location, depth, type of use, duration of use, and the plugging records.)

Sec. 22 T28N R51E	
C NW SW	Biere 1-22 Also known as: Mesa Biere 1-22.
Sec. 27 T28N R51E	
C NW NW	Federal 1-27 Also known as: AMARCO Schmidt 1-27

W.R. Grace & Co.-Conn.

For: Polumbus Corporation/Polumbus Company

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Sec. 10 T28N R51E	
NW NE	Polumbus (Huber) 4
NW NE (50 east of Polumbus 4)	Polumbus (Huber) 4-A
NE	Polumbus (Huber) 1-W
NE NE	Polumbus (Huber) 3
SE NW	Polumbus 13 Also known as: Murphy 13
SW NE	Polumbus (Huber) 2
SE SW NE	Polumbus 5 Also known as: Murphy 5
E SW NE	Huber 5 SWD Known as: Murphy 5 SWD Huber 5 Production well
SE NE SE	Grace 110x Also known as: EPU 110x-D

Marathon Oil Company

For: Texas Oil & Gas Corp.
Trade name TXO Production Corp.

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Sec. 22 T28N R51E	
C NW NE	TXO -1 Also known as Buckles "B" #1
NW SE NW	Buckles SWD #1 Also known as TXO-SWD-1
C SE NW	Buckles A-1

EPEC-Altamont Corporation

For: Tenneco Oil Company Inc./ Tenneco-Altamont Corporation

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Sec. 25 T28N R51E	
NW SW NE	Tenneco 1 Also known as G. Morse #1

CERTIFICATE OF SERVICE

Docket No. SDWA-8-99-68

I hereby certify that the original and a true copy of this Emergency Administrative Order was hand-carried to the Regional Hearing Clerk, EPA Region 8, 999 18th Street, Denver, Colorado, and that a true copy of the same was sent via Certified Mail Return Receipt Requested mail to:

**Murphy Exploration & Production Company
CT Corporation System
40 West Lawrence, Suite A
Post Office Box 1166
Helena, Montana 59624-1166;**

**Murphy Oil USA, Inc.
CT Corporation System
40 West Lawrence, Suite A
Post Office Box 1166
Helena, Montana 59624-1166;**

**Murphy Oil Corporation
Corporation Trust Company
Corporation Trust Center
1209 Orange Street
Wilmington, Delaware 19801;**

**Pioneer Natural Resources Company
1400 Williams Square West
5205 North O'Connor Blvd.
Irving, TX 75039;**

**Pioneer Natural Resources Company
c/o Pioneer Natural Resources USA, Inc.
CT Corporation System
40 West Lawrence, Ste A
Post Office Box 1166
Helena, Montana 59624-1166;**

**W.R. Grace & Company- Conn.
Prentice-Hall Corporation System Inc.
Post Office Box 1691
Helena, Montana 59624-1691;**

CERTIFICATE OF SERVICE

Docket No. SDWA-8-99-68

AMARCO Resources Corporation

S.O.S.

2920 One Main Place

Dallas, TX 75250;

EPEC-Altamont Corporation

CT Corporation System

40 West Lawrence, Suite A

Post Office Box 1166

Helena, Montana 59624-1166; and

Marathon Oil Company

CT Corporation System

40 West Lawrence, Suite A

Post Office Box 1166

Helena, Montana 59624-1166

Dated: September 30, 1999

By: Judith McTernan
Judith McTernan

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

99 NOV -5 AM 8:03

EPA REGION VIII
HEARING CLERK

IN THE MATTER OF)

AMARCO Resources Corporation,)

Marathon Oil Company,)

Murphy Exploration and)
Production Company,)

Pioneer Natural Resources USA)
Incorporated,)

W.R. Grace & Company-Conn.,)

Respondents)

East Poplar Oil Field)
Fort Peck Indian Reservation)
Montana)

Proceedings under)
Section 1431(a))
of the Safe Drinking Water)
Act, 42 U.S.C. §300g-i(a))

Docket No. SDWA-8-99-68

**FIRST AMENDED EMERGENCY.
ADMINISTRATIVE ORDER**

DESCRIPTION

This Order revokes and supercedes in its entirety the preceding Order Docket #SDWA-8-99-68 which was issued September 30, 1999.

I. STATUTORY AUTHORITY

1. The following Findings are made and Order issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 1431(a) of the Safe Drinking Water Act (the Act), 42

U.S.C. §300i(a). The authority to take this action has been properly delegated to the undersigned EPA program supervisors.

II. ENFORCEMENT RESPONSIBILITY

1. EPA has primary enforcement responsibility for the Act on the Lands within the exterior boundary of the Fort Peck Indian Reservation in Roosevelt County in the State of Montana.

III. DESCRIPTION OF RESPONDENTS

1. AMARCO Resources Corporation is a Texas corporation and did business in the state of Montana and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). AMARCO Resources Corp. is also using the trade name Westdale, Inc. in Texas.
2. Marathon Oil Company is an Ohio corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). TXO Production Corp. a Delaware corporation merged with Marathon Oil Company. TXO Production Corp was a trade name for Texas Oil & Gas Corp. a Delaware corporation.
3. Murphy Exploration & Production Company is a Delaware corporation doing business in the State of Montana and

therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12).

4. Pioneer Natural Resources USA, Inc. is a Delaware corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Pioneer Natural Resources USA, Inc. acquired the assets of Mesa Petroleum Co. Mesa Petroleum Co. did business in the state of Montana.
5. W.R. Grace & Co. is a Connecticut corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Polumbus Petroleum Corporation in its merger with W.R. Grace & Co. became Grace Petroleum Corporation. Polumbus Petroleum Corporation merged with W.R. Grace & Co. a Connecticut corporation in 1976. Polumbus did business in the state of Montana.
6. Respondents own and/or operate or did own and/or operate oil and gas production facilities, including but not limited to oil or gas production wells, produced brine disposal wells, secondary recovery injection wells, drilled and abandoned dry holes, production and waste pits, storage tanks, oil/water separators, and distribution pipelines and pumping facilities, in portions of the East Poplar Oil Field

located within Township 28 North, Range 51 East on the Fort Peck Indian Reservation in Roosevelt County in the State of Montana.

IV. FINDINGS

1. The Quaternary Deposits are the most recent geologic deposits of the Cenozoic Era, covering approximately the past 1.65 million years. These Quaternary Deposits in the East Poplar Oil Field area consist mainly of the Winota Gravel, Sprole Silt, glacial till, fan alluvium and colluvium, and alluvium. The Pleistocene Winota Gravel, Sprole Silt, glacial till, and dune sand are referred to as "glacial deposits". Lithologic logs from the monitoring wells drilled in the area show depths ranging from of 55 to 100 feet. The Pleistocene and Holocene fan alluvium and colluvium and Holocene alluvium are referred to as "alluvium" and overlie the glacial deposits in many areas with depths ranging from 20 to 56 feet. The alluvium underlies flood plain deposits. Water in Quaternary deposits east of the Poplar River generally moves westward toward the river where it merges with southward-flowing ground water in the Poplar River valley. Downward movement of water from the Quaternary deposits is not a significant problem, the underlying Bearpaw Shale is relatively impermeable and forms a confining layer.

2. These Quaternary glacial deposits and alluvium are the sole developed source of ground water for private resident wells in and around the East Poplar Oil Field and the Poplar, Montana and tribally-owned Poplar Head Start Center public water supply systems. Depth to the water table below land surface in this area generally ranges from about 5 to 44 feet in the alluvium and 7 to 139 feet in the glacial deposits.

3. The Quaternary Deposits form an unconfined aquifer which contains a sufficient quantity of ground water to supply a public water system. A public water system (PWS), as defined by 40 C.F.R. § 141.2, means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.

4. The Quaternary Deposits are an underground source of drinking water (USDW). A USDW, as defined under 40 C.F.R. § 144.3, means an aquifer or its portion which supplies any PWS or which contains a sufficient quantity of ground water to supply a public water system; and currently supplies drinking water for human consumption or contains fewer than 10,000 mg/L total dissolved solids. Past sampling from private ground water wells in the area showed total dissolved solids

content ranging from 427-2,680 mg/L (as discussed in the U.S. Geological Survey study below).

5. The United States Geological Survey (USGS) has conducted an extensive ground water investigation of saline-water contamination in and around the East Poplar Oil Field. The USGS reviewed ground water and surface water quality data from existing private water wells, new monitoring wells, oil wells, brine-injection wells, and the Poplar River in the East Poplar Oil Field area. Additionally, the USGS completed an electromagnetic geophysical survey, by measuring the electromagnetic apparent conductivity corrected for local anomalies (wells, pipelines, etc.), over a 21.6 square mile area to assist in the delineating the extent of the saline-water contamination plumes. Uncontaminated ground-water in the area had total dissolved solids content ranging from 427-2,680 mg/L. The areas delineated by the ground water study as part of the brine contaminated plumes contained total dissolved solid levels as high as 91,100 mg/L. In July 1999, EPA took ground water samples from the wells at private homes within the area shown by the USGS study to have brine contamination. EPA found TDS levels at these homes to range from 1850 to 4890 mg/L.
6. EPA collected water samples at several of the home sites in the contamination area to determine if any

contamination by hydrocarbons or volatile organic compounds (VOCs) was also a concern. Brine contamination plumes associated with oil and gas production operations will have remnants of hydrocarbons from the production formation. Samples taken by both EPA at the existing home sites and USGS at several monitoring wells showed benzene contamination. A sample taken at one home site had benzene contamination between 58-78 ug/L or 0.058-0.078 mg/L, while other samples taken at USGS monitoring wells in the field were between 1.58-4.86 ug/L or 0.00158-0.00486 mg/L.

7. Under the Primary Drinking Water Standards, the maximum contaminant level (MCL) for benzene, as set forth in 40 C.F.R. § 141.61, is 0.005 mg/L. Secondary Drinking Water Standards, as set out in 40 C.F.R. § 143.3, for dissolved-solids is 500 mg/L.
8. The presence and entry of benzene at levels as high as .078 mg/L in the Quaternary Deposits USDW may present an imminent and substantial endangerment to the health of persons.
9. Benzene is a known human carcinogen. A causal relationship between benzene exposure and leukemia has been clearly established. Benzene exposure has also been associated with cancer of the lymph system (lymphoma), lung cancer, and bladder (urothelial)

cancer. Benzene may increase the risk of cancer in humans who are exposed at lower levels over a long period of time.

10. The presence and entry of dissolved-solids at levels between 10,000 and 91,100 mg/L where found in the Quaternary Deposits USDW may present an imminent and substantial endangerment to the health of persons.
11. Total dissolved solids in excess of 1,000-2,000 mg/L is unpalatable and will not be voluntarily consumed by individuals. If an individual has no other source of water and is forced to consume water with TDS levels over 10,000 mg/L, the adverse health effects include severe osmotic diarrhea and severe dehydration. Continued consumption after the onset of the above conditions may result in death.
12. Contaminants, including dissolved-solids and benzene are present in, entering, and are likely to continue to enter the Quaternary Deposits.
13. Based upon the data obtained regarding the geology in the affected area, the general direction of groundwater migration in the USDW and water quality assessments from monitoring and private wells, and review of historical land use in the area, EPA has determined that Respondents' oil production practices and/or equipment have caused or contributed and/or are continuing to cause or contribute to the endangerment

of a USDW.

14. EPA has consulted with the Assiniboine and Sioux Tribes of the Fort Peck Reservation prior to issuing this Order. The Tribes notified EPA that they have not taken an action to protect the health of persons from the contaminants that are likely to be present in the Quaternary Deposits USDW.
15. To date, no governmental action has been taken to protect the health of persons from the contaminants that are likely to be present in the Quaternary Deposits USDW due to Respondents' operations of their oil production operations. The State of Montana, which does not have jurisdiction in this case, has been contacted by EPA. The State notified EPA that it has not taken an action and does not intend to take an action in this case.
16. EPA, therefore, finds that the actions ordered below are authorized under Section 1431 of the Act, 42 U.S.C. §300(i), and are necessary in order to protect the health of persons.

V. PURPOSE

1. The purpose of this order is to describe actions which EPA believes necessary to remove the imminent and substantial endangerment to the health of persons located within the areas described in this order. EPA

believes that the actions necessary to remove the threat include, but may not be limited to, supplying permanent alternate water, identification of all the contaminant source(s), containment of the existing and on-going contaminants, and possible remediation of the existing and on-going contaminants.

2. EPA will approach the steps outlined in paragraph 1 (above) in a phased manner. Submission of the information required under paragraphs VI(1)(B) through VI(1)(E) of this Order is expected to provide EPA with more certainty regarding the specific sources of the contaminants and will allow for an opportunity under §1431(a) of the Safe Drinking Water Act to issue a subsequent Order to the parties specifically found to be responsible for the historic and/or on-going Quaternary aquifer contamination in the East Poplar Oil Field. EPA will focus any subsequent Order to include only those parties who are found to have causation clearly established with the present and/or on-going contamination.

VI. EMERGENCY ADMINISTRATIVE ORDER

1. Based on the foregoing findings, taking into account the imminent and substantial endangerment to the health of persons and other such matters as justice may require, as shown by the administrative record, and

under authority of §1431(i) of the Act, 42 U.S.C.
§300(i), Respondents are ordered to perform the
following actions:

A. PROVIDE TEMPORARY SAFE DRINKING WATER SOURCE TO
IDENTIFIED RESIDENCES

The Respondents shall continue to provide an
alternative source of water that meets the EPA drinking
water standards (40 C.F.R. Part 142) for drinking and
cooking to the residences of the contaminated area.
The water shall be provided in the quantity of one
gallon per person per day in each residence. This
water is to be provided on a regular basis in an easily
accessible manner to the residence. The residences
known to have contaminated water or which have drinking
water which is threatened with contamination at this
time are listed below and on the attached map

(Attachment #1) :

Current Resident	City	State	Residence Address	Sec	Twn	Rge
Kohl, Danny	Poplar	MT				
Lien, Birdell	Poplar	MT				
Zimmerman, Bill	Poplar	MT				
Abbott, Joe	Poplar	MT				
Kirn, Audrey	Poplar	MT				
Kirn, Michael	Poplar	MT				
Gray Hawk, Rachel	Poplar	MT				

East Poplar Oil Field
Page 12 of 19

Trottier, Tim & Donna	Poplar	MT
Lockman, Lyle	Poplar	MT
Four Bears, Charles	Poplar	MT
Martell, Rene & Josi	Poplar	MT
Ricker Sr., George & Helen	Poplar	MT
Bleazard, Ross & Laura	Poplar	MT
Whitmer, Warren & Donna	Poplar	MT
Loegering, Mavis	Poplar	MT
Kirn Sr., Jesse	Poplar	MT
Grandchamp, Denise	Poplar	MT
Grainger, Trivian	Poplar	MT
Grainger, Iva	Poplar	MT
Ranf, Marie and Corne, Warren	Poplar	MT

There may be a need to supply domestic water to additional residents, including other residents or locations drawing domestic water from the Quaternary

aquifer. Respondents, upon notification by EPA, shall deliver this water until such time as the local water source has been deemed by EPA as safe for consumptive use or a permanent alternative source of water is provided.

B. PREPARE AND SUBMIT WELL INFORMATION

The Respondents shall provide a historical record for each well listed and any other wells drilled, completed, reworked, converted, operated or plugged by Respondents within the sections of Township 28N and Range 51E, Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24. As information becomes available to Respondents, each Respondent shall submit the information to the EPA. At the latest, all information required from all Respondents shall be submitted by March 31, 2000. Attached is a list of wells known by Section, Township, and Range, and by company, for which, at a minimum, the Respondents must provide the well information listed below (Attachment #2). The drilling, construction, well rework, conversion, plugging and other pertinent records submitted shall include but not be limited to the information listed below. In each case service company records associated with each well activity shall be included. Respondents shall include information on each instance of well integrity failures, that involved

casing leaks, flow behind the casing and/or any fluids surfacing at or near the wellheads. Respondents shall include information listed below:

1. Well Name and API Identification Number
2. Well location
3. Current well status for each well.
 - a. Active, Shut-in, Temporarily Abandoned, Plugged
4. Well Construction Information
 - a. Date Well Drilled
 - b. Date Well Completed
 - c. Total Depth
 - d. Plug Back Depth
 - e. Drilling Record
 - f. Completion Record (include diagram)
 - g. Cementing Record (including estimated cement tops with assumptions for calculations and cement bond logs)
5. Well Rework Information
 - a. Date of Well Rework
 - b. Reason for Rework (If due to casing leak, location of leak if known)
 - c. Records of Well Logs and Tests Performed
 - d. Record of Rework
 - e. Date Well Recommended Injection or Production
6. Temporarily Abandoned (TA) or Shut-in Wells Information
 - a. Date(s) Well Shut-in or TA
 - b. Reason for TA or Shut-in of Well
 - c. Was Well Shut-in or TA'd With the Equipment in the Well?
 - d. If Not, What Equipment Was Removed and When, Provide a Record of Work if Possible
 - e. Is the Well Capable of Resuming Injection or Production Without a Rework?
7. Well Conversion Information
 - a. Date(s) Well Converted from Production to Injection:
 - b. Date(s) Well Converted from Injection to Production
 - c. Record of Conversion Activity
8. Plugging and Abandonment Information
 - a. Plug and Abandonment Plan
 - b. Plugging Record
 - c. Were Any Problems Experienced During the Plugging Process, Involving Such Things as Pulling of Equipment, Setting Plugs, Water Flow to Surface?

C. PREPARE AND SUBMIT TANK AND PIPELINE INFORMATION

Respondents shall provide information on all current and past tanks, associated tank battery equipment, oil/water separators, and pipelines used in the East Poplar Oil Field for the production of oil and gas in the township, range, and sections listed Paragraph VI(1)(B) above, including but not limited to: Tank Batteries 8-D, 80-D, South Central, A, C, D, F, G, H, K, and R. As information becomes available to Respondents, each Respondent shall submit the information to the EPA. At the latest, all information required from all Respondents shall be submitted by March 31, 2000. Respondents shall provide the information listed below:

1. Location of tank
2. Tank size and construction
3. Duration of tank use
4. Information on leaking tank bottoms or any other type of tank integrity failure(s)
5. Information on spill incidents at or near the tanks and tank batteries, including those from unloading transport trucks into the tanks.
6. Location of all pipelines (identify as surface or subsurface)
7. Information on any leaks or spills from pipelines leading to and from the tanks and wells
8. Information on pipeline failures on the surface and subsurface.

D. PROVIDE INFORMATION ON PIT(S) USED IN THE PRODUCTION OF OIL OR GAS

Respondents shall provide information on all current and abandoned pits used for well construction, oil and gas production, well workovers, product and waste

storage, evaporation and disposal of fluid products and wastes in the sections listed for in the East Poplar Oil Field for the production of oil and gas in the township, range, and sections listed in Paragraph VI(1)(B) above. As information becomes available to Respondents, each Respondent shall submit the information to the EPA. At the latest, all information required from all Respondents shall be submitted by March 31, 2000.

Respondents shall include information on the construction for each pit, date pit constructed, duration of pit use, for what the pit was used, types of wastes placed in the pit, and, if abandoned, records of abandonment.

E. PROVIDE GEOLOGIC AND HYDROLOGIC FIELD INFORMATION

Respondents shall provide a formation depth cross section for the portion of the field drilled, constructed, operated, and/or plugged well(s) by each Respondent. Respondents shall provide information on all formations found to contain water above the injection or production formation being used by their wells. Respondents shall provide information on formation pressures for production and/or injection formations, over a time line from well construction to well plugging. As information becomes available to Respondents, each Respondent shall submit the

information to the EPA. At the latest, all information required from all Respondents shall be submitted by March 31, 2000.

2. Unless otherwise specified, all reports and notifications herein required shall be submitted to:

Nathan Wiser
U.S. Environmental Protection Agency
Office of Enforcement, Compliance
and Environmental Justice
Technical Enforcement Program (8ENF-T)
999 18th Street, Suite 500
Denver, Colorado 80202-2466
Telephone (303) 312-6211

VII. GENERAL PROVISIONS

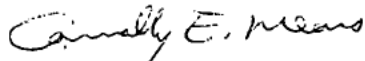
1. The provisions of this order shall apply to and be binding upon Respondents, their officers, directors, agents, successors and assigns. Notice of this Order shall be given to any successors in interest prior to transfer of any of the oil and gas facilities or their operation. Action or inaction of any persons, firms, contractors, employees, agents, or corporations acting under, through or for Respondents, shall not excuse any failure of Respondents to fully perform their obligations under this Order.
2. This Order does not constitute a waiver, suspension, or modification of the requirements of any federal statute, regulation, or condition of any permit issued thereunder, including the requirements of the Safe

Drinking Water Act, which remain in full force and effect. Issuance of this Order is not a waiver by EPA to forgo any additional administrative, civil, or criminal action(s) otherwise authorized under the Act.

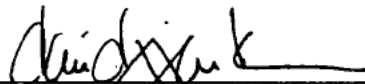
3. Violation of any term of this Order may subject Respondents to an administrative civil penalty of up to \$15,000 for each day in which such violation occurs or failure to comply continues pursuant to §1431(b) of the Act, 42 U.S.C. §300i(b). In addition, actions or omissions which violate any requirements of the SDWA or its implementing regulations may subject Respondents to a civil penalty of not more than \$27,500 per day per violation pursuant to §1423 of the Act, 42 U.S.C. §300h-2.
4. This Emergency Administrative Order is a final agency action by EPA.
5. This Emergency Administrative Order is binding on all Respondents, and each Respondent is jointly and severally liable hereunder.

6. The effective date of this Order shall be the date of issuance.

Issued this 5th day of NOVEMBER, 1999.

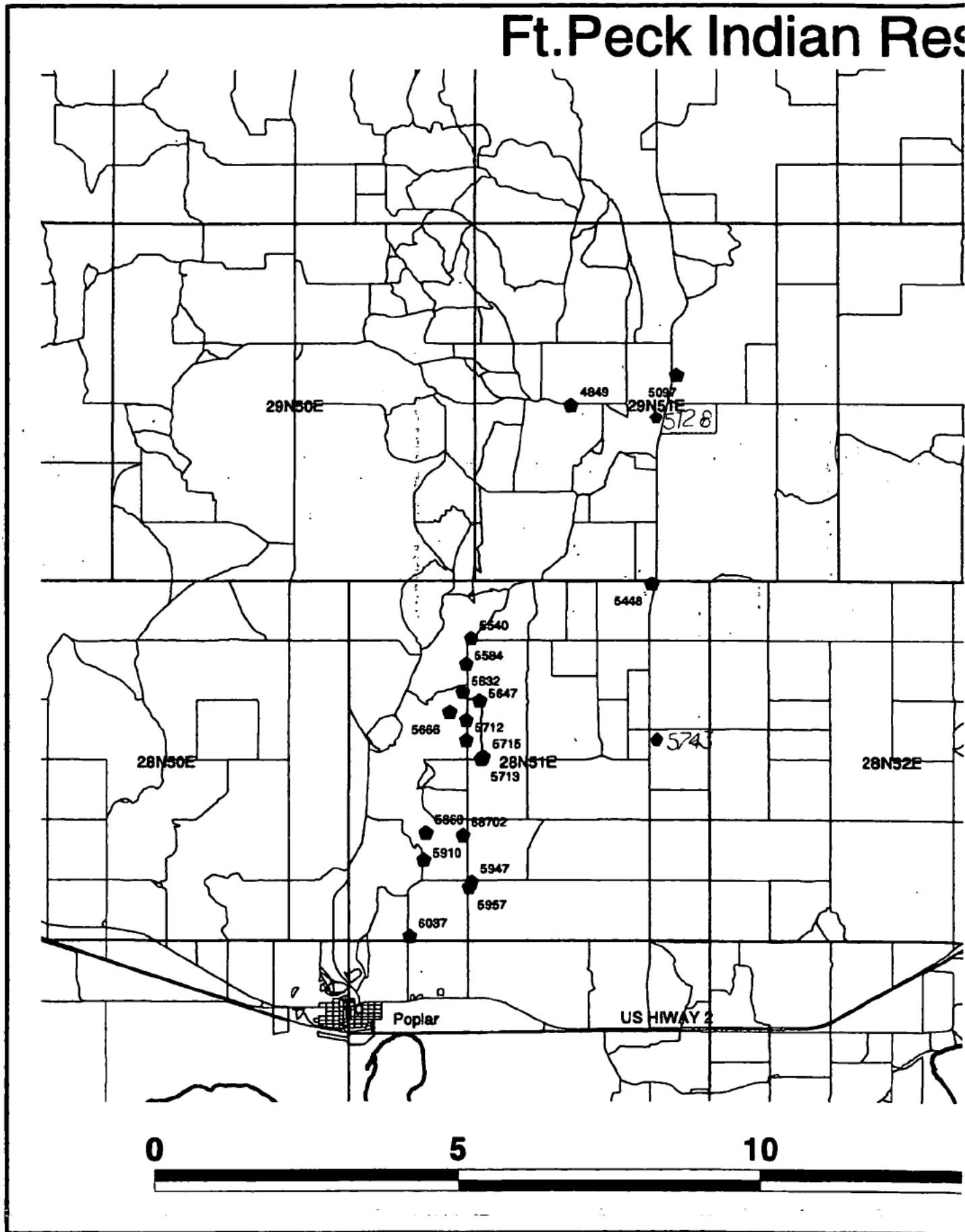


Connally E. Mears, Director
Technical Enforcement Program
Office of Enforcement, Compliance,
and Environmental Justice
United States Environmental Protection
Agency, Region 8



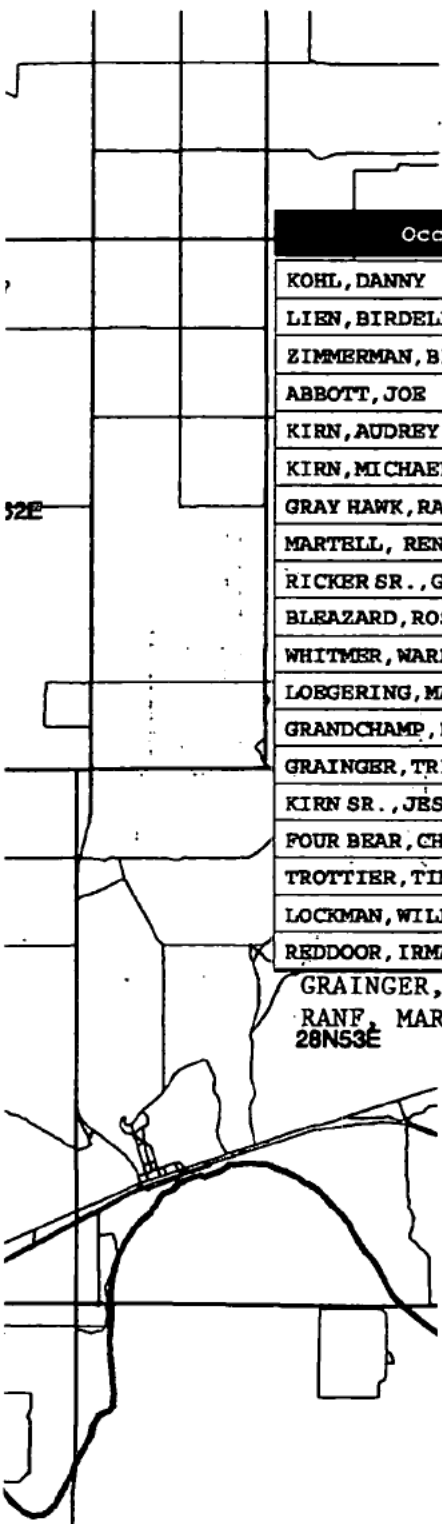
Michael T. Risner, Director
David J. Janik, Supervisory Attorney
Legal Enforcement Program
Office of Enforcement, Compliance,
and Environmental Justice
United States Environmental Protection
Agency, Region 8

Ft. Peck Indian Res



vation

East Poplar Unit, Homeowners



Occupant		
KOHL, DANNY	POPLAR	MT
LIEN, BERDELL	POPLAR	MT
ZIMMERMAN, BILL	SIDNEY	MT
ABBOTT, JOE	POPLAR	MT
KIRN, AUDREY	POPLAR	MT
KIRN, MICHAEL	POPLAR	MT
GRAY HAWK, RACHEL L.	POPLAR	MT
MARTELL, RENE JOSI	POPLAR	MT
RICKER SR., GEORGE HELEN	POPLAR	MT
BLEAZARD, ROSS LAURA	POPLAR	MT
WHITMER, WARREN DONNA	POPLAR	MT
LOEGERING, MAVIS	POPLAR	MT
GRANDCHAMP, DENISE	POPLAR	MT
GRAINGER, TRIVIAN	POPLAR	MT
KIRN SR., JESSE	POPLAR	MT
FOUR BEAR, CHARLES	POPLAR	MT
TROTTIER, TIM, DONNA	POPLAR	MT
LOCKMAN, WILLIAM	POPLAR	MT
REDDOOR, IRMA	POPLAR	MT
GRAINGER, IVA	POPLAR	MT
RANF, MARIE	POPLAR	MT
28N53E		

- Homesites
- Roads
- Township
- Reservation Boundary 1988

ATTACHMENT 2

WELL LIST BY COMPANY

Murphy Oil Corporation

Murphy Oil USA, Inc.

Murphy Exploration & Production Company

Provide the information required above for those wells listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

LOCATION	WELL NAME
Sec 1 T28N R51E	
C SW NW	Murphy 3
C SW NE	Murphy 99
NE SE	Murphy 76
Sec 2 T28N R51E	
SW NE	Murphy 1
C SE NW	Murphy 18 Also known as: Zimmerman EPU #18 or the 7-B Well
SW NE	Murphy 2-D Also known as: EPU 2-D
SE SE	Zimmerman EPU 116 - New Well
C SW SW	Zimmerman EPU #5 Also known as Murphy #5 or the 7-A Well
C SE SE	Murphy 17
Sec 3 T28N R51E	
SW NW	Murphy 80-D Also known as: Tribal Unit #80-D
	Murphy 82
C SW SE	Murphy 12

C SE SE	Murphy 14
SEC 4 T28N R51E	
SW NW	Murphy 59-D
C SW NE	Murphy 45
Sec 9 T28N R51E	
SE NE	Murphy 67
Sec 10 T28N R51E	
NW NW	Murphy 11
NW NE	Polumbus (Huber) 4
NW NE (50 feet east of Huber #4)	Polumbus (Huber) 4-A
NE	Polumbus (Huber) 1-W
NE NE	Polumbus (Huber) 3
SE NW	Murphy 13
SW NE	Polumbus (Huber) 2
SE SW NE	Murphy 5
SW NW	Polumbus (Huber) 1
C NW SE	Murphy 8-D
E SW NE	(Murphy) Huber 5 SWD Previously known as the Huber 5 (Production)
NE SE	Murphy 6
Sec. 11 T28N R51E	
NWNW	Murphy 15
SW NW	Murphy 7 also known as EPU #7
SW NE	Murphy 68
C SW SW	Murphy 9
SW SE	Murphy 100
Sec. 12 T28N R51E	
SW SW	Murphy 24
SW NE	Murphy 61

Sec. 13 T28N R51E	
SE SW	Murphy 74
Sec. 14 T28N R51E	
C NW	Murphy 101 Also called the Tribal 101
SW SW NE	Murphy 20 Also called the Unit 20
SW SE	Murphy 104 Also called the Tribal 104
SW SW SW	Murphy 22 Also known as the Tribal Unit 22 and EPU 22
Sec. 15 T28N R51E	
C SW NE	Murphy 32 Also known as EPU32
Sec. 22 T28N R51E	
C NW NE	TXO -1 Also known as Buckles "B" #1
NW SE NW	Buckles SWD #1 Also known as TXO-SWD-1
C SE NW	Buckles A-1
SW SE	Tribal Unit #72 Also known as Murphy 72
Sec. 23 T28N R51E	
C SW NE	Murphy 26 (Also known as Fed. Unit #26)
C NW SW	Fed. Unit 55 Also known as Murphy 55

NE NE SW	Fed. Unit 3-G Also known as Murphy 3-G
Sec. 24 T28N R51E	
SW SW	Murphy 44
Sec. 27 T28N R51E	
C SW NE	Federal unit #63 Also known as EPU 63 or Murphy 63

Pioneer Natural Resources Company

for Mesa Petroleum Co.

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

(Respondent must also provide information on the relief well drilled near the Mesa Biere 1-22. Respondent must submit information on its location, depth, type of use, duration of use, and the plugging records.)

Sec. 22 T28N R51E	
C NW SW	Biere 1-22 Also know as: Mesa Biere 1-22.
SW NW SW	Biere 1-W SWD Also known as: Mesa 1-W(Biere)

AMARCO Resources Company

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

(Respondent must also provide information on the relief well drilled near the Mesa Biere 1-22. Respondent must submit information on its location, depth, type of use, duration of use, and the plugging records.)

Sec. 22 T28N R51E	
C NW SW	Biere 1-22 Also known as: Mesa Biere 1-22
Sec. 27 T28N R51E	
C NW NW	Federal 1-27 Also known as: AMARCO Schmidt 1-27

W.R. Grace & Co.-Conn.

For: Polumbus Corporation/Polumbus Company

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Sec. 10 T28N R51E	
NW NE	Polumbus (Huber) 4
NW NE (50 east of Polumbus 4)	Polumbus (Huber) 4-A
NE	Polumbus (Huber) 1-W
NE NE	Polumbus (Huber) 3
SE NW	Polumbus 13 Also known as: Murphy 13
SW NE	Polumbus (Huber) 2
SE SW NE	Polumbus 5 Also known as: Murphy 5
E SW NE	Huber 5 SWD Known as: Murphy 5 SWD Huber 5 Production well
SE NE SE	Grace 110x Also known as: EPU 110x-D

Marathon Oil Company

For: Texas Oil & Gas Corp.

Trade name TXO Production Corp.

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Sec. 22 T28N R51E	
C NW NE	TXO -1 Also known as Buckles "B" #1
NW SE NW	Buckles SWD #1 Also known as TXO-SWD-1
C SE NW	Buckles A-1

EPEC-Altamont Corporation

For: Tenneco Oil Company Inc./ Tenneco-Altamont Corporation

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Sec. 25 T28N R51E	
NW SW NE	Tenneco 1 Also known as G. Morse #1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

00 NOV 30 PM 4:41

FILED
EPA REGION VIII
HEARDING CLERK

IN THE MATTER OF

AMARCO Resources Corporation,

Marathon Oil Company,

Murphy Exploration and
Production Company,

Pioneer Natural Resources USA
Incorporated,

Samson Investment Company,

Samson Hydrocarbons Company,

Respondents

East Poplar Oil Field
Fort Peck Indian Reservation
Montana

Proceedings under
Section 1431(a)
of the Safe Drinking Water
Act, 42 U.S.C. §300g-i(a)

Docket No. SDWA-8-99-68

**SECOND AMENDED EMERGENCY
ADMINISTRATIVE ORDER**

DESCRIPTION

This Order amends existing Order Docket #SDWA-8-99-68, which was first issued September 30, 1999, and first amended on November 5, 1999. This amendment makes only the changes listed in the following paragraphs and makes no other changes to the existing Order. These amendments are made because, on or about January 21, 1993, Samson Investment Company acquired all issued and

outstanding stock of Grace Petroleum Corporation and became that company's successor in interest. On or about that same day, Samson Investment Company changed the name of Grace Petroleum Corporation to Samson Natural Gas Company. Samson Natural Gas Company then changed its name to SNG Production Company on or about April 19, 1993. Then, on or about December 28, 1994, SNG Production Company changed its name to Samson Hydrocarbons Company.

The existing Order continues in full effect except for the amendments set forth hereunder.

AMENDMENTS TO ORDER DOCKET No. SDWA-8-99-68

1. The caption of existing Order is changed to reflect the removal of W.R. Grace & Co.-Conn. as a Respondent and the addition of both Samson Investment Company and Samson Hydrocarbons Company as Respondents. The caption of Order Docket #SDWA-8-99-68 will now appear as follows:

IN THE MATTER OF)

AMARCO Resources Corporation,)

Marathon Oil Company,)

Murphy Exploration and)
Production Company,)

Pioneer Natural Resources USA)
Incorporated,)

Samson Investment Company,)

Samson Hydrocarbons Company,)

Respondents)

East Poplar Oil Field)
Fort Peck Indian Reservation)
Montana)

Proceedings under)
Section 1431(a))
of the Safe Drinking Water)
Act, 42 U.S.C. §300g-i(a))

Docket No. SDWA-8-99-68

**SECOND AMENDED EMERGENCY
ADMINISTRATIVE ORDER**

2. Section III, Paragraph 5 of the November 5, 1999, Order is replaced by the following paragraph:

Samson Investment Company is a Nevada corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Safe Drinking Water Act, 42 U.S.C. §300f(12).
Polumbus Petroleum Corporation merged with W.R. Grace & Co. (a Connecticut corporation) to become

Grace Petroleum Corporation in 1976. Samson Investment Company acquired all issued and outstanding stock of Grace Petroleum Corporation in 1993, thereby becoming its successor in interest. Polumbus did business in the State of Montana. Grace Petroleum Corporation did business in the State of Montana. Samson Hydrocarbons Company, a subsidiary of Samson Investment Company, is a Delaware corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Safe Drinking Water Act, 42 U.S.C. §300f(12).

3. The following sentence is added to Section VI, Paragraphs 1(B), 1(C), 1(D), and 1(E) of the November 5, 1999, Order:

Respondents Samson Investment Company and Samson Hydrocarbons Company shall submit the information ordered in this paragraph by January 31, 2001.

4. The description at the top of the seventh page of Attachment #2 to the November 5, 1999 Order will now appear as follows:

Samson Investment Company and Samson Hydrocarbons Company
2 West Second Street
Tulsa, Oklahoma 74103

For: Polumbus Corporation/Polumbus Company/Grace Petroleum Corporation

5. The ninth page of Attachment #2 to the November 5, 1999

East Poplar Oil Field
Page 5 of 6

Order is removed, correcting its inadvertent inclusion
in the November 5, 1999 Order.

6. The effective date of this Second Amended Emergency
Administrative Order shall be the date of issuance.

Issued this 30th day of NOVEMBER, 2000.

Connally E. Mears

Connally E. Mears, Director
Technical Enforcement Program
Office of Enforcement, Compliance,
and Environmental Justice
United States Environmental Protection Agency,
Region 8

David J. Janik

Michael T. Risner, Director
David J. Janik, Supervisory Attorney
Legal Enforcement Program
Office of Enforcement, Compliance,
and Environmental Justice
United States Environmental Protection Agency,
Region 8

CERTIFICATE OF SERVICE
Docket No. SDWA-8-99-68

I hereby certify that the original and a true copy of this Second Amended Emergency Administrative Order were hand-carried to the Regional Hearing Clerk, EPA Region VIII, 999 18th Street, Denver, Colorado, and that a true copy of the same was hand-carried to:

Regional Judicial Officer
EPA Region VIII
999 18th Street
Denver, Colorado

and that true copies of the same were sent via Certified Mail Return Receipt Requested mail to:

AMARCO Resources Corporation
S.O.S.
2920 One Main Place
Dallas, TX 75250

W.R. Grace and Company - Conn.
Prentice Hall Corporation System, Inc.
P.O. Box 1691
Helena, MT 59624-1691

Samson Hydrocarbons Company
Prentice-Hall Corporation System, Inc.
1013 Centre Road
Wilmington, DE 19805

Marathon Oil Company
CT Corporation System
40 West Lawrence, Suite A
Helena, MT 59624-1166

Samson Hydrocarbons Company
Attention: Environmental Services
Two West Second Street, Samson Plaza
Tulsa, OK 74103-3103

Murphy Exploration and Production Company
CT Corporation System
40 West Lawrence, Suite A
P.O. Box 1166
Helena, MT 59624-1166

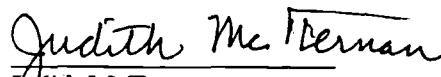
Samson Investment Company
Attention: Environmental Services
Two West Second Street, Samson Plaza
Tulsa, OK 74103-3103

Pioneer Natural Resources USA, Inc.
CT Corporation System
40 West Lawrence, Suite A
Helena, MT 59624-1166

Samson Investment Company
Corporation Trust Company of Nevada
6100 Neil Road #500
Reno, NV 89511

Dated: November 30, 2000

By:


Judith McTernan

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

99 NOV -5 AM 8:00

EPA REGION VIII
HEARING CLERK

IN THE MATTER OF

AMARCO Resources Corporation,

Marathon Oil Company,

Murphy Exploration and
Production Company,

Pioneer Natural Resources USA
Incorporated,

W.R. Grace & Company-Conn.,

Respondents

East Poplar Oil Field
Fort Peck Indian Reservation
Montana

Proceedings under
Section 1431(a)
of the Safe Drinking Water
Act, 42 U.S.C. §300g-i(a)

Docket No. SDWA-8-99-68

**FIRST AMENDED EMERGENCY
ADMINISTRATIVE ORDER**

DESCRIPTION

This Order revokes and supercedes in its entirety the preceding Order Docket #SDWA-8-99-68 which was issued September 30, 1999.

I. STATUTORY AUTHORITY

1. The following Findings are made and Order issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 1431(a) of the Safe Drinking Water Act (the Act), 42

U.S.C. §300i(a). The authority to take this action has been properly delegated to the undersigned EPA program supervisors.

II. ENFORCEMENT RESPONSIBILITY

1. EPA has primary enforcement responsibility for the Act on the Lands within the exterior boundary of the Fort Peck Indian Reservation in Roosevelt County in the State of Montana.

III. DESCRIPTION OF RESPONDENTS

1. AMARCO Resources Corporation is a Texas corporation and did business in the state of Montana and therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). AMARCO Resources Corp. is also using the trade name Westdale, Inc. in Texas.
2. Marathon Oil Company is an Ohio corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). TXO Production Corp. a Delaware corporation merged with Marathon Oil Company. TXO Production Corp was a trade name for Texas Oil & Gas Corp. a Delaware corporation.
3. Murphy Exploration & Production Company is a Delaware corporation doing business in the State of Montana and

therefore is a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12).

4. Pioneer Natural Resources USA, Inc. is a Delaware corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Pioneer Natural Resources USA, Inc. acquired the assets of Mesa Petroleum Co. Mesa Petroleum Co. did business in the state of Montana.
5. W.R. Grace & Co. is a Connecticut corporation and therefore a "person" within the meaning of 40 CFR §141.2 and §144.2 and Section 1401(12) of the Act, 42 U.S.C. §300f(12). Polumbus Petroleum Corporation in its merger with W.R. Grace & Co. became Grace Petroleum Corporation. Polumbus Petroleum Corporation merged with W.R. Grace & Co. a Connecticut corporation in 1976. Polumbus did business in the state of Montana.
6. Respondents own and/or operate or did own and/or operate oil and gas production facilities, including but not limited to oil or gas production wells, produced brine disposal wells, secondary recovery injection wells, drilled and abandoned dry holes, production and waste pits, storage tanks, oil/water separators, and distribution pipelines and pumping facilities, in portions of the East Poplar Oil Field

located within Township 28 North, Range 51 East on the Fort Peck Indian Reservation in Roosevelt County in the State of Montana.

IV. FINDINGS

1. The Quaternary Deposits are the most recent geologic deposits of the Cenozoic Era, covering approximately the past 1.65 million years. These Quaternary Deposits in the East Poplar Oil Field area consist mainly of the Winota Gravel, Sprole Silt, glacial till, fan alluvium and colluvium, and alluvium. The Pleistocene Winota Gravel, Sprole Silt, glacial till, and dune sand are referred to as "glacial deposits". Lithologic logs from the monitoring wells drilled in the area show depths ranging from of 55 to 100 feet. The Pleistocene and Holocene fan alluvium and colluvium and Holocene alluvium are referred to as "alluvium" and overlie the glacial deposits in many areas with depths ranging from 20 to 56 feet. The alluvium underlies flood plain deposits. Water in Quaternary deposits east of the Poplar River generally moves westward toward the river where it merges with southward-flowing ground water in the Poplar River valley. Downward movement of water from the Quaternary deposits is not a significant problem, the underlying Bearpaw Shale is relatively impermeable and forms a confining layer.

2. These Quaternary glacial deposits and alluvium are the sole developed source of ground water for private resident wells in and around the East Poplar Oil Field and the Poplar, Montana and tribally-owned Poplar Head Start Center public water supply systems. Depth to the water table below land surface in this area generally ranges from about 5 to 44 feet in the alluvium and 7 to 139 feet in the glacial deposits.
3. The Quaternary Deposits form an unconfined aquifer which contains a sufficient quantity of ground water to supply a public water system. A public water system (PWS), as defined by 40 C.F.R. § 141.2, means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.
4. The Quaternary Deposits are an underground source of drinking water (USDW). A USDW, as defined under 40 C.F.R. § 144.3, means an aquifer or its portion which supplies any PWS or which contains a sufficient quantity of ground water to supply a public water system; and currently supplies drinking water for human consumption or contains fewer than 10,000 mg/L total dissolved solids. Past sampling from private ground water wells in the area showed total dissolved solids

content ranging from 427-2,680 mg/L (as discussed in the U.S. Geological Survey study below).

5. The United States Geological Survey (USGS) has conducted an extensive ground water investigation of saline-water contamination in and around the East Poplar Oil Field. The USGS reviewed ground water and surface water quality data from existing private water wells, new monitoring wells, oil wells, brine-injection wells, and the Poplar River in the East Poplar Oil Field area. Additionally, the USGS completed an electromagnetic geophysical survey, by measuring the electromagnetic apparent conductivity corrected for local anomalies (wells, pipelines, etc.), over a 21.6 square mile area to assist in the delineating the extent of the saline-water contamination plumes. Uncontaminated ground-water in the area had total dissolved solids content ranging from 427-2,680 mg/L. The areas delineated by the ground water study as part of the brine contaminated plumes contained total dissolved solid levels as high as 91,100 mg/L. In July 1999, EPA took ground water samples from the wells at private homes within the area shown by the USGS study to have brine contamination. EPA found TDS levels at these homes to range from 1850 to 4890 mg/L.
6. EPA collected water samples at several of the home sites in the contamination area to determine if any

contamination by hydrocarbons or volatile organic compounds (VOCs) was also a concern. Brine contamination plumes associated with oil and gas production operations will have remnants of hydrocarbons from the production formation. Samples taken by both EPA at the existing home sites and USGS at several monitoring wells showed benzene contamination. A sample taken at one home site had benzene contamination between 58-78 ug/L or 0.058-0.078 mg/L, while other samples taken at USGS monitoring wells in the field were between 1.58-4.86 ug/L or 0.00158-0.00486 mg/L.

7. Under the Primary Drinking Water Standards, the maximum contaminant level (MCL) for benzene, as set forth in 40 C.F.R. § 141.61, is 0.005 mg/L. Secondary Drinking Water Standards, as set out in 40 C.F.R. § 143.3, for dissolved-solids is 500 mg/L.
8. The presence and entry of benzene at levels as high as .078 mg/L in the Quaternary Deposits USDW may present an imminent and substantial endangerment to the health of persons.
9. Benzene is a known human carcinogen. A causal relationship between benzene exposure and leukemia has been clearly established. Benzene exposure has also been associated with cancer of the lymph system (lymphoma), lung cancer, and bladder (urothelial)

cancer. Benzene may increase the risk of cancer in humans who are exposed at lower levels over a long period of time.

10. The presence and entry of dissolved-solids at levels between 10,000 and 91,100 mg/L where found in the Quaternary Deposits USDW may present an imminent and substantial endangerment to the health of persons.
11. Total dissolved solids in excess of 1,000-2,000 mg/L is unpalatable and will not be voluntarily consumed by individuals. If an individual has no other source of water and is forced to consume water with TDS levels over 10,000 mg/L, the adverse health effects include severe osmotic diarrhea and severe dehydration. Continued consumption after the onset of the above conditions may result in death.
12. Contaminants, including dissolved-solids and benzene are present in, entering, and are likely to continue to enter the Quaternary Deposits.
13. Based upon the data obtained regarding the geology in the affected area, the general direction of groundwater migration in the USDW and water quality assessments from monitoring and private wells, and review of historical land use in the area, EPA has determined that Respondents' oil production practices and/or equipment have caused or contributed and/or are continuing to cause or contribute to the endangerment

of a USDW.

14. EPA has consulted with the Assiniboine and Sioux Tribes of the Fort Peck Reservation prior to issuing this Order. The Tribes notified EPA that they have not taken an action to protect the health of persons from the contaminants that are likely to be present in the Quaternary Deposits USDW.
15. To date, no governmental action has been taken to protect the health of persons from the contaminants that are likely to be present in the Quaternary Deposits USDW due to Respondents' operations of their oil production operations. The State of Montana, which does not have jurisdiction in this case, has been contacted by EPA. The State notified EPA that it has not taken an action and does not intend to take an action in this case.
16. EPA, therefore, finds that the actions ordered below are authorized under Section 1431 of the Act, 42 U.S.C. §300(i), and are necessary in order to protect the health of persons.

V. PURPOSE

1. The purpose of this order is to describe actions which EPA believes necessary to remove the imminent and substantial endangerment to the health of persons located within the areas described in this order. EPA

believes that the actions necessary to remove the threat include, but may not be limited to, supplying permanent alternate water, identification of all the contaminant source(s), containment of the existing and on-going contaminants, and possible remediation of the existing and on-going contaminants.

2. EPA will approach the steps outlined in paragraph 1 (above) in a phased manner. Submission of the information required under paragraphs VI(1)(B) through VI(1)(E) of this Order is expected to provide EPA with more certainty regarding the specific sources of the contaminants and will allow for an opportunity under §1431(a) of the Safe Drinking Water Act to issue a subsequent Order to the parties specifically found to be responsible for the historic and/or on-going Quaternary aquifer contamination in the East Poplar Oil Field. EPA will focus any subsequent Order to include only those parties who are found to have causation clearly established with the present and/or on-going contamination.

VI. EMERGENCY ADMINISTRATIVE ORDER

1. Based on the foregoing findings, taking into account the imminent and substantial endangerment to the health of persons and other such matters as justice may require, as shown by the administrative record, and

under authority of §1431(i) of the Act, 42 U.S.C.
§300(i), Respondents are ordered to perform the
following actions:

A. PROVIDE TEMPORARY SAFE DRINKING WATER SOURCE TO
IDENTIFIED RESIDENCES

The Respondents shall continue to provide an
alternative source of water that meets the EPA drinking
water standards (40 C.F.R. Part 142) for drinking and
cooking to the residences of the contaminated area.
The water shall be provided in the quantity of one
gallon per person per day in each residence. This
water is to be provided on a regular basis in an easily
accessible manner to the residence. The residences
known to have contaminated water or which have drinking
water which is threatened with contamination at this
time are listed below and on the attached map

(Attachment #1) :

Current Resident	City	State	Residence Address	Sec	Twn	Rge
Kohl, Danny	Poplar	MT				
Lien, Birdell	Poplar	MT				
Zimmerman, Bill	Poplar	MT				
Abbott, Joe	Poplar	MT				
Kirn, Audrey	Poplar	MT				
Kirn, Michael	Poplar	MT				
Gray Hawk, Rachel	Poplar	MT				

East Poplar Oil Field
Page 12 of 19

Trottier, Tim & Donna	Poplar	MT
Lockman, Lyle	Poplar	MT
Four Bears, Charles	Poplar	MT
Martell, Rene & Josi	Poplar	MT
Ricker Sr., George & Helen	Poplar	MT
Bleazard, Ross & Laura	Poplar	MT
Whitmer, Warren & Donna	Poplar	MT
Loegering, Mavis	Poplar	MT
Kirn Sr., Jesse	Poplar	MT
Grandchamp, Denise	Poplar	MT
Grainger, Trivian	Poplar	MT
Grainger, Iva	Poplar	MT
Ranf, Marie and Corne, Warren	Poplar	MT

There may be a need to supply domestic water to additional residents, including other residents or locations drawing domestic water from the Quaternary

aquifer. Respondents, upon notification by EPA, shall deliver this water until such time as the local water source has been deemed by EPA as safe for consumptive use or a permanent alternative source of water is provided.

B. PREPARE AND SUBMIT WELL INFORMATION

The Respondents shall provide a historical record for each well listed and any other wells drilled, completed, reworked, converted, operated or plugged by Respondents within the sections of Township 28N and Range 51E, Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24. As information becomes available to Respondents, each Respondent shall submit the information to the EPA. At the latest, all information required from all Respondents shall be submitted by March 31, 2000. Attached is a list of wells known by Section, Township, and Range, and by company, for which, at a minimum, the Respondents must provide the well information listed below (Attachment #2). The drilling, construction, well rework, conversion, plugging and other pertinent records submitted shall include but not be limited to the information listed below. In each case service company records associated with each well activity shall be included. Respondents shall include information on each instance of well integrity failures, that involved

casing leaks, flow behind the casing and/or any fluids surfacing at or near the wellheads. Respondents shall include information listed below:

1. Well Name and API Identification Number
2. Well location
3. Current well status for each well.
 - a. Active, Shut-in, Temporarily Abandoned, Plugged
4. Well Construction Information
 - a. Date Well Drilled
 - b. Date Well Completed
 - c. Total Depth
 - d. Plug Back Depth
 - e. Drilling Record
 - f. Completion Record (include diagram)
 - g. Cementing Record (including estimated cement tops with assumptions for calculations and cement bond logs)
5. Well Rework Information
 - a. Date of Well Rework
 - b. Reason for Rework (If due to casing leak, location of leak if known)
 - c. Records of Well Logs and Tests Performed
 - d. Record of Rework
 - e. Date Well Recommended Injection or Production
6. Temporarily Abandoned (TA) or Shut-in Wells Information
 - a. Date(s) Well Shut-in or TA
 - b. Reason for TA or Shut-in of Well
 - c. Was Well Shut-in or TA'd With the Equipment in the Well?
 - d. If Not, What Equipment Was Removed and When, Provide a Record of Work if Possible
 - e. Is the Well Capable of Resuming Injection or Production Without a Rework?
7. Well Conversion Information
 - a. Date(s) Well Converted from Production to Injection:
 - b. Date(s) Well Converted from Injection to Production
 - c. Record of Conversion Activity
8. Plugging and Abandonment Information
 - a. Plug and Abandonment Plan
 - b. Plugging Record
 - c. Were Any Problems Experienced During the Plugging Process, Involving Such Things as Pulling of Equipment, Setting Plugs, Water Flow to Surface?

C. PREPARE AND SUBMIT TANK AND PIPELINE INFORMATION

Respondents shall provide information on all current and past tanks, associated tank battery equipment, oil/water separators, and pipelines used in the East Poplar Oil Field for the production of oil and gas in the township, range, and sections listed Paragraph VI(1)(B) above, including but not limited to: Tank Batteries 8-D, 80-D, South Central, A, C, D, F, G, H, K, and R. As information becomes available to Respondents, each Respondent shall submit the information to the EPA. At the latest, all information required from all Respondents shall be submitted by March 31, 2000. Respondents shall provide the information listed below:

1. Location of tank
2. Tank size and construction
3. Duration of tank use
4. Information on leaking tank bottoms or any other type of tank integrity failure(s)
5. Information on spill incidents at or near the tanks and tank batteries, including those from unloading transport trucks into the tanks.
6. Location of all pipelines (identify as surface or subsurface)
7. Information on any leaks or spills from pipelines leading to and from the tanks and wells
8. Information on pipeline failures on the surface and subsurface.

D. PROVIDE INFORMATION ON PIT(S) USED IN THE PRODUCTION OF OIL OR GAS

Respondents shall provide information on all current and abandoned pits used for well construction, oil and gas production, well workovers, product and waste

storage, evaporation and disposal of fluid products and wastes in the sections listed for in the East Poplar Oil Field for the production of oil and gas in the township, range, and sections listed in Paragraph VI(1)(B) above. As information becomes available to Respondents, each Respondent shall submit the information to the EPA. At the latest, all information required from all Respondents shall be submitted by March 31, 2000.

Respondents shall include information on the construction for each pit, date pit constructed, duration of pit use, for what the pit was used, types of wastes placed in the pit, and, if abandoned, record of abandonment.

E. PROVIDE GEOLOGIC AND HYDROLOGIC FIELD INFORMATION
Respondents shall provide a formation depth cross section for the portion of the field drilled, constructed, operated, and/or plugged well(s) by each Respondent. Respondents shall provide information on all formations found to contain water above the injection or production formation being used by their wells. Respondents shall provide information on formation pressures for production and/or injection formations, over a time line from well construction to well plugging. As information becomes available to Respondents, each Respondent shall submit the

information to the EPA. At the latest, all information required from all Respondents shall be submitted by March 31, 2000.

2. Unless otherwise specified, all reports and notifications herein required shall be submitted to:

Nathan Wiser
U.S. Environmental Protection Agency
Office of Enforcement, Compliance
and Environmental Justice
Technical Enforcement Program (8ENF-T)
999 18th Street, Suite 500
Denver, Colorado 80202-2466
Telephone (303) 312-6211

VII. GENERAL PROVISIONS

1. The provisions of this order shall apply to and be binding upon Respondents, their officers, directors, agents, successors and assigns. Notice of this Order shall be given to any successors in interest prior to transfer of any of the oil and gas facilities or their operation. Action or inaction of any persons, firms, contractors, employees, agents, or corporations acting under, through or for Respondents, shall not excuse any failure of Respondents to fully perform their obligations under this Order.
2. This Order does not constitute a waiver, suspension, or modification of the requirements of any federal statute, regulation, or condition of any permit issued thereunder, including the requirements of the Safe

Drinking Water Act, which remain in full force and effect. Issuance of this Order is not a waiver by EPA to forgo any additional administrative, civil, or criminal action(s) otherwise authorized under the Act.

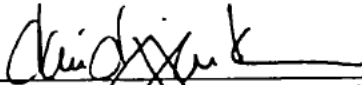
3. Violation of any term of this Order may subject Respondents to an administrative civil penalty of up to \$15,000 for each day in which such violation occurs or failure to comply continues pursuant to §1431(b) of the Act, 42 U.S.C. §300i(b). In addition, actions or omissions which violate any requirements of the SDWA or its implementing regulations may subject Respondents to a civil penalty of not more than \$27,500 per day per violation pursuant to §1423 of the Act, 42 U.S.C. §300h-2.
4. This Emergency Administrative Order is a final agency action by EPA.
5. This Emergency Administrative Order is binding on all Respondents, and each Respondent is jointly and severally liable hereunder.

6. The effective date of this Order shall be the date of issuance.

Issued this 5th day of NOVEMBER, 1999.

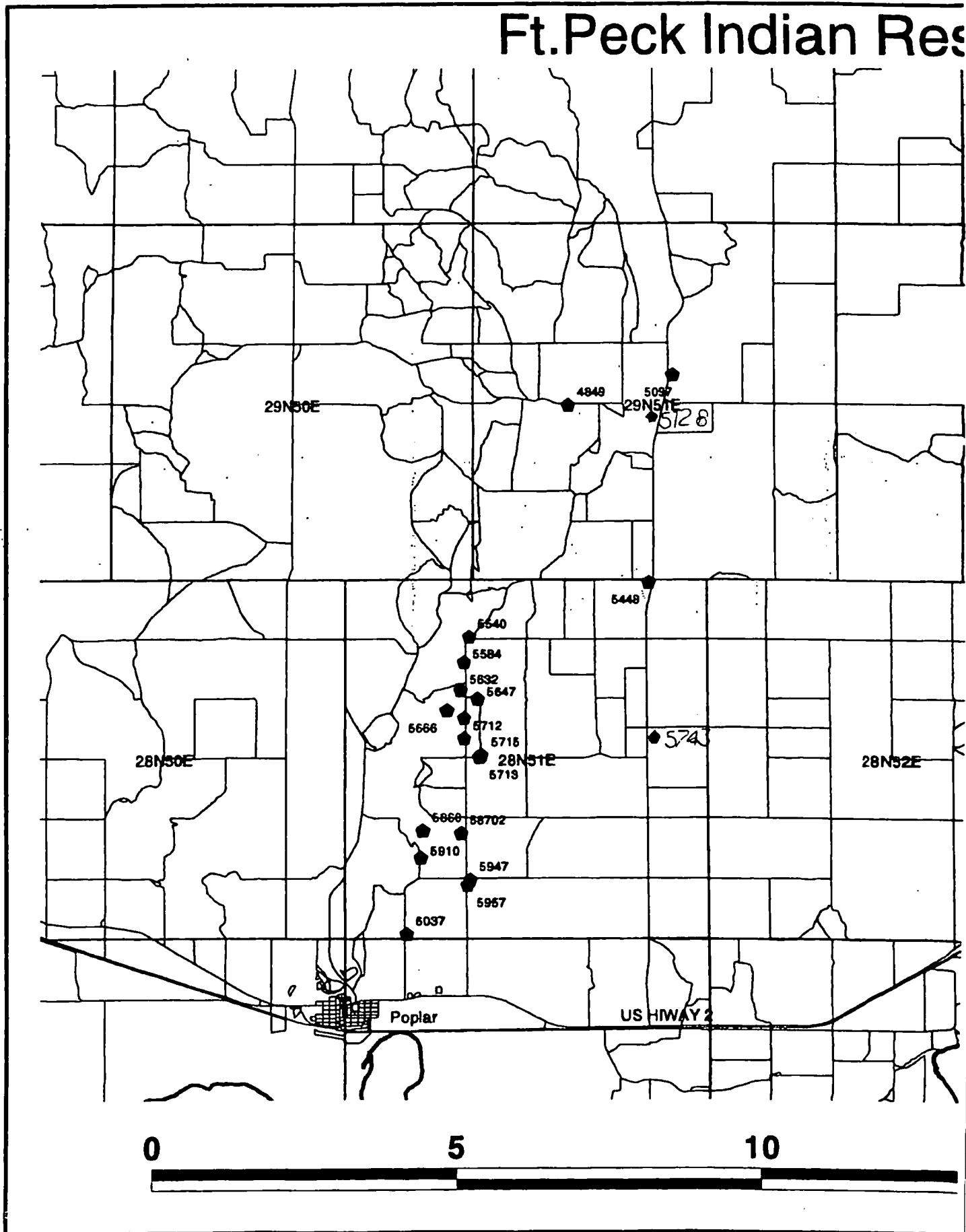


Connally E. Mears, Director
Technical Enforcement Program
Office of Enforcement, Compliance,
and Environmental Justice
United States Environmental Protection
Agency, Region 8



Michael T. Risner, Director
David J. Janik, Supervisory Attorney
Legal Enforcement Program
Office of Enforcement, Compliance,
and Environmental Justice
United States Environmental Protection
Agency, Region 8

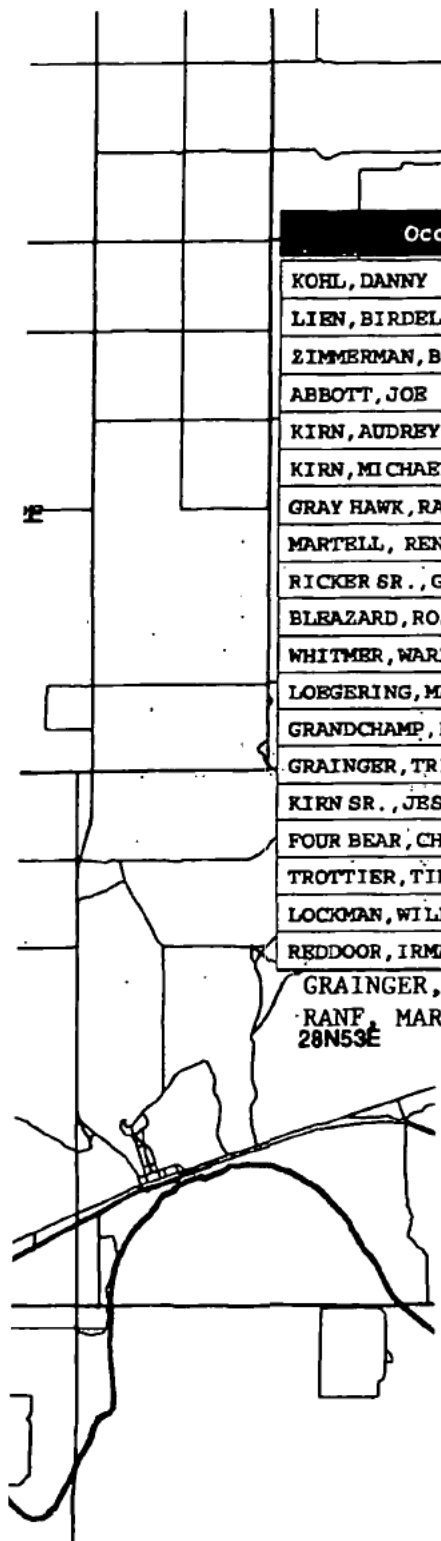
Ft. Peck Indian Res



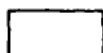
vation

East Poplar Unit, Homeowners

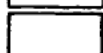
Occupant		
KOHL, DANNY	POPLAR	MT
LIEN, BIRDELL	POPLAR	MT
ZIMMERMAN, BILL	SIDNEY	MT
ABBOTT, JOE	POPLAR	MT
KIRN, AUDREY	POPLAR	MT
KIRN, MICHAEL	POPLAR	MT
GRAY HAWK, RACHEL L.	POPLAR	MT
MARTELL, RENE JOSI	POPLAR	MT
RICKER SR., GEORGE HELEN	POPLAR	MT
BLEAZARD, ROSS LAURA	POPLAR	MT
WHITMER, WARREN DONNA	POPLAR	MT
LOEGERING, MAVIS	POPLAR	MT
GRANDCHAMP, DENISE	POPLAR	MT
GRAINGER, TRIVIAN	POPLAR	MT
KIRN SR., JESSE	POPLAR	MT
FOUR BEAR, CHARLES	POPLAR	MT
TROTIER, TIM, DONNA	POPLAR	MT
LOCKMAN, WILLIAM	POPLAR	MT
REDDOOR, IRMA	POPLAR	MT
GRAINGER, IVA	POPLAR	MT
RANF, MARIE	POPLAR	MT
28N53E		



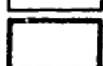
• Homesites



Roads



Township



Reservation Boundary 1988

15 Miles

ATTACHMENT 2

WELL LIST BY COMPANY

Murphy Oil Corporation
200 E. Peach Street
El Dorado, AR 70112

Murphy Oil USA, Inc.
200 Peach Street
El Dorado, AR 70112

Murphy Exploration & Production Company
131 S. Robertson St.
P.O. Box 61870
New Orleans, LA 70161

Provide the information required above for those wells listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

LOCATION	WELL NAME
Sec 1 T28N R51E	
C SW NW	Murphy 3
C SW NE	Murphy 99
NE SE	Murphy 76
Sec 2 T28N R51E	
SW NE	Murphy 1
C SE NW	Murphy 18 Also known as: Zimmerman EPU #18 or the 7-B Well
SW NE	Murphy 2-D Also known as: EPU 2-D
SE SE	Zimmerman EPU 116 - New Well
C SW SW	Zimmerman EPU #5 Also known Murphy #5 or the 7-A Well
C SE SE	Murphy 17

Sec 3 T28N R51E	
SW NW	Murphy 80-D Also known as: Tribal Unit #80-D
	Murphy 82
C SW SE	Murphy 12
C SE SE	Murphy 14
SEC 4 T28N R51E	
SW NW	Murphy 59-D
C SW NE	Murphy 45
Sec 9 T28N R51E	
SE NE	Murphy 67
Sec 10 T28N R51E	
NW NW	Murphy 11
NW NE	Polumbus (Huber) 4
NW NE (50 feet east of Huber #4)	Polumbus (Huber) 4-A
NE	Polumbus (Huber) 1-W
NE NE	Polumbus (Huber) 3
SE NW	Murphy 13
SW NE	Polumbus (Huber) 2
SE SW NE	Murphy 5
SW NW	Polumbus (Huber) 1
C NW SE	Murphy 8-D
E SW NE	(Murphy) Huber 5 SWD Previously known as the Huber 5 (Production)
NE SE	Murphy 6
Sec. 11 T28N R51E	
NWNW	Murphy 15
SW NW	Murphy 7 also known as EPU #7

SW NE	Murphy 68
C SW SW	Murphy 9
SW SE	Murphy 100
Sec. 12 T28N R51E	
SW SW	Murphy 24
SW NE	Murphy 61
Sec. 13 T28N R51E	
SE SW	Murphy 74
Sec. 14 T28N R51E	
C NW	Murphy 101 Also called the Tribal 101
SW SW NE	Murphy 20 Also called the Unit 20
SW SE	Murphy 104 Also called the Tribal 104
SW SW SW	Murphy 22 Also Known as the Tribal Unit 22 and EPU 22
Sec. 15 T28N R51E	
C SW NE	Murphy 32 Also known as EPU32
Sec. 22 T28N R51E	
C NW NE	TXO -1 Also Known as Buckles "B" #1
NW SE NW	Buckles SWD #1 Also known as TXO-SWD-1
C SE NW	Buckles A-1

SW SE	Tribal Unit #72 Also known as Murphy 72
Sec. 23 T28N R51E	
C SW NE	Murphy 26 (Also known as Fed. Unit #26)
C NW SW	Fed. Unit 55 Also known as Murphy 55
NE NE SW	Fed. Unit 3-G Also known as Murphy 3-G
Sec. 24 T28N R51E	
SW SW	Murphy 44
Sec. 27 T28N R51E	
C SW NE	Federal unit #63 Also known as EPU 63 or Murphy 63

Pioneer Natural Resources Company
for Mesa Petroleum Co.
1400 Williams Square West
5205 N. O'Connor Blvd.
Irving, Texas 75039

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Respondent must also provide information on the relief well drilled near the Mesa Biere 1-22. Respondent must submit information on its location, depth, type of use, duration of use, and the plugging records.

Sec. 22 T28N R51E	
C NW SW	Biere 1-22 Also Know as: Mesa Biere 1-22
SW NW SW	Biere 1-W SWD Also Known as: Mesa 1-W(Biere)

AMARCO Resources Company
c/o Westdale Inc.
Highway 67 South
Ballinger, Texas 76821

and/or

AMARCO Resources Company
2920 One Main Place
Dallas, Texas 75250

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Respondent must also provide information on the relief well drilled near the Mesa Biere 1-22. Respondent must submit information on its location, depth, type of use, duration of use, and the plugging records.

Sec. 22 T28N R51E	
C NW SW	Biere 1-22 Also Know as: Mesa Biere 1-22
Sec. 27 T28N R51E	
C NW NW	Federal 1-27 Also known as: AMARCO Schmidt 1-27

Samson Investment Company and Samson Hydrocarbons Company
2 West Second Street
Tulsa, Oklahoma 74103

For: Polumbus Corporation/Polumbus Company/Grace Petroleum
Corporation

Provide the information required above for those well(s) listed
below and all other wells constructed, operated, or plugged in
the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections
1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Sec. 10 T28N R51E	
NW NE	Polumbus (Huber) 4
NW NE (50 east of Polumbus 4)	Polumbus (Huber) 4-A
NE	Polumbus (Huber) 1-W
NE NE	Polumbus (Huber) 3
SE NW	Polumbus 13 Also known as: Murphy 13
SW NE	Polumbus (Huber) 2
SE SW NE	Polumbus 5 Also known as: Murphy 5
E SW NE	Huber 5 SWD Known as: Murphy 5 SWD Huber 5 Production well
SE NE SE	Grace 110x Also known as: EPU 110x-D

Marathon Oil Company
539 S. Main St.
Findlay, OH 45840

For: Texas Oil & Gas Corp.
Trade name TXO Production Corp.

Provide the information required above for those well(s) listed below and all other wells constructed, operated, or plugged in the sections listed below:

East Poplar Oil Field Near Poplar, Montana in T28N R51E Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24.

Sec. 22 T28N R51E	
C NW NE	TXO -1 Also Known as Buckles "B" #1
NW SE NW	Buckles SWD #1 Also known as TXO-SWD-1
C SE NW	Buckles A-1